Amendments to the Claims:

1. (previously presented) A method of producing a long-lived, stabilized tetragonal zirconia polycrystal ceramic, comprising the following steps:

hot isostatic pressing said ceramic at a controlled temperature, at a controlled pressure, and in a controlled atmosphere to achieve an average grain size of less than about 0.5 micron, to substantially eliminate open porosity and to increase bulk density to about 100% of theoretical, thereby substantially eliminating low-temperature degradation of said polycrystal ceramic; and

providing said ceramic as an implantable hollow tube.

2. (original) The method according to claim 1 further comprising the step of stabilizing said stabilized tetragonal zirconia polycrystal ceramic with yttria.

3. (original) The method according to claim 2, wherein said step of stabilizing said ceramic with 3 mole percent of yttria.

4. (cancelled)

5. (currently amended) The method according to claim ~~4~~ 1 further comprising the step of providing said hollow tube having a length less than 100 mm, an outside diameter less than 10 mm and a wall thickness less than 2 mm.

6. (original) The method according to claim 1 comprising the step of hot isostatic pressing at said controlled temperature of 1200°C to 1450°C.

7. (original) The method according to claim 1 comprising the step of hot isostatic pressing at said controlled pressure of at least 100 MPa.

8. (original) The method according to claim 1 comprising the step of hot isostatic pressing at said controlled atmosphere in argon.

9. (original) The method according to claim 1 comprising the step of hot isostatic pressing at said controlled atmosphere in a mixture of 80 volume percent argon and 20 volume percent oxygen.

10. (original) A method of producing a long-lived, implantable case, said implantable case comprised of a stabilized tetragonal zirconia polycrystal ceramic, wherein the improvement comprises the step of hot isostatic pressing said implantable case at a controlled temperature, at a controlled pressure, and in a controlled atmosphere to achieve an average grain size of less than about 0.5 micron, to substantially eliminate open porosity and to increase bulk density to about 100% of theoretical, thereby substantially eliminating low-temperature degradation of said implantable case.

11. (original) The method according to claim 10 further comprising the step of stabilizing said stabilized tetragonal zirconia polycrystal ceramic with yttria.

12. (original) The method according to claim 11, wherein said step of stabilizing said ceramic with 3 mole percent of yttria.

13. (original) The method according to claim 10 further comprising the step of providing said implantable case as a hollow tube.

14. (original) The method according to claim 13 further comprising the step of providing said hollow tube having a length less than 100 mm, an outside diameter less than 10 mm and a wall thickness less than 2 mm.

15. (original) The method according to claim 10 comprising the step of hot isostatic pressing at said controlled temperature of 1200°C to 1450°C.

16. (original) The method according to claim 10 comprising the step of hot isostatic pressing at said controlled pressure of at least 100 MPa.

17. (original) The method according to claim 10 comprising the step of hot isostatic pressing at said controlled atmosphere in argon.

18. (original) The method according to claim 10 comprising the step of hot isostatic pressing at said controlled atmosphere in a mixture of 80 volume percent argon and 20 volume percent oxygen.

19. (original) A method of producing a long-lived, living tissue implantable microstimulator substantially encapsulated within a hermetically-sealed housing, said housing comprised of an yttria-stabilized tetragonal zirconia polycrystal ceramic hollow tube, said microstimulator being of a size approximately 10 mm in diameter and 100 mm in length and of longitudinal shape capable of implantation in the immediate vicinity of selected areas of the body by expulsion through a hypodermic needle, a first inert, metallic electrode hermetically sealed to said housing at or near one end thereof and a second inert, metallic electrode hermetically sealed to said housing at or near another end thereof, and a substantial portion of said electrodes being exposed outside said microstimulator so as to provide stimulation pulses, wherein the improvement comprises the step of hot isostatic pressing said yttria-stabilized tetragonal zirconia polycrystal ceramic hollow tube at a controlled temperature, at a controlled pressure, and in a controlled atmosphere to achieve an average grain size of less than about 0.5 micron, to substantially eliminate open porosity and to increase bulk density to about 100% of theoretical, thereby eliminating low-temperature degradation of said ceramic hollow tube.

20. (original) The method according to claim 19 comprising the step of hot isostatic pressing at said controlled pressure of 100 MPa.

21. (original) The method according to claim 19 comprising the step of hot isostatic pressing at said controlled temperature of greater than 1000°C.

22. (original) The method according to claim 19 comprising the step of hot isostatic pressing in said controlled atmosphere of argon.

23. (original) A method of producing a long-lived, implantable case, said implantable case comprised of a stabilized tetragonal zirconia polycrystal ceramic, comprising the steps of:

forming said implantable case sized to have a length less than 100 mm, an outside diameter less than 10 mm and a wall thickness less than 2 mm;

sintering said case to an open porosity of less than 2%;

hot isostatically pressing said implantable case at a controlled temperature, at a controlled pressure, and in a controlled atmosphere to achieve an average grain size of less than about 0.5 micron, to substantially eliminate open porosity and to increase bulk density to about 100% of theoretical, thereby substantially eliminating low-temperature degradation of said implantable case;

polishing said ceramic tube to a surface finish of less than 32 microinch roughness; and

brazing hermetically sealed metal ends on said implantable case.

24. (original) The method of claim 23, further comprising the step of loading the implantable case in three-point bending to a stress of at least 800 MPa to assure that said case will not fail at a lesser stress.

25. (original) The method of claim 23, wherein said step of hot isostatically pressing further comprises hot isostatically pressing at a controlled temperature of 1200°C to 1450°C.

26. (original) The method of claim 23, wherein said step of hot isostatically pressing further comprises hot isostatically pressing at a controlled pressure greater than 100 MPa.

27. (original) The method of claim 23, wherein said step of hot isostatically pressing further comprises hot isostatically pressing in a controlled atmosphere of argon.

28. (original) The method of claim 23, further comprising the step of hot isostatically pressing at said controlled temperature, said controlled pressure, and said controlled atmosphere for at least 30 minutes.

29-34. (cancelled)